

**Notice of Allowability**

Application No.

10/052,289

Examiner

Albert K Wong

Applicant(s)

LUJAN ET AL.

Art Unit

2635

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application filed 1/18/2002.
2. ☒ The allowed claim(s) is/are 1-7 and 12.
3. ☒ The drawings filed on 18 January 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

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1. This Office action is in response to the application filed January 18, 2002. Claims 1-13 are pending. The Examiner was informed by Gene Arant regarding related application 10/439,994. The application has been considered in the examination process.

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-7 and 12, drawn to a method an apparatus for protecting heavy equipment from parts separation, classified in class 340, subclass 870.07.
- II. Claims 8-11 and 13, drawn to a transducer for sensing position, classified in class 340, subclass 480.

The inventions are distinct, each from the other because of the following reasons:

3. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require the particular transducer. The subcombination has separate utility such as a generic transducer.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

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6. During a telephone conversation with Gene Arant on October 28, 2004 a provisional election was made without traverse to prosecute the invention of group I, claims 1-7 and 12. Affirmation of this election must be made by applicant in replying to this Office action. Claims 8-1 and 13 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

8. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Gene Arant on October 28, 2004.

The application has been amended as follows:

Please cancel claims 8-11 and 12.

1. (currently amended) A method for preventing the unexpected loss of heavy mining equipment from metal separation comprising:

mechanically detecting the separation of a metal part from the leading edge of an excavator at an

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early stage by an embedded sensor;

generating a radio signal in response to the mechanical detection;

receiving the radio signal at a remote location; and

generating a warning signal in response to the reception of the radio signal.

2. (currently amended) The method of preventing damage from the loss of heavy mining equipment when a portion is unexpectedly

separated from an excavation machine, comprising the steps of:

selecting a monitoring station associated with the heavy mining equipment;

positioning a receiver at the monitoring station;

selecting an electromechanical transducer that is adapted to respond to the physical separation of the leading edge of the excavation machine;

placing a radio transmitter in operative relationship to the transducer wherein the transmitter generates a signal whenever the leading edge of

the excavation machine has been at least partially separated from the excavator; and

generating an alarm with sufficient promptness whenever the signal is received at the monitoring station so that further separation of the leading edge may be prevented.

12. (currently amended) In an open-pit mining operation, the method of detecting the partial separation of a tooth from an excavation bucket, comprising

the steps of:

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placing an adapter between the leading edge of the excavation bucket and a tooth of the bucket wherein the adapter contains a spring-loaded switch and a transmitter, wherein the switch is adapted to expand upon the partial separation of the tooth from the adapter;

activating an electrical switch upon sufficient expansion of the spring-loaded switch; and activating the radio transmitter upon actuation of the electrical switch.

9. Claims 1-7 and 12 allowed.

10. The following is an examiner's statement of reasons for allowance: The claims recite methods and an apparatus for the protection of mining equipment by the detection of the separation of the leading edge of the equipment used for excavation or the like. Such a combination is not taught or suggested by the prior art of record. The monitoring of vehicles is generally well known. Johnson teaches a system that monitors various portions of a mining vehicle and transmits the data to a remote location, but does not teach or suggest the monitoring of parts separation.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert K Wong whose telephone number is 571-272-3057. The examiner can normally be reached on M-Th.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on 703-305-4704. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Albert K. Wong  
October 28, 2004